

Application Number 10/814,046  
Amendment dated December 15, 2004  
Responsive to Office Action mailed October 18, 2004

### LISTING OF CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

#### **Listing of Claims:**

**Claim 1 (Currently Amended):** An apparatus comprising:  
a class E amplifier having a first transistor;  
a second transistor controlling a current path in parallel to the first transistor, and further wherein the second transistor has a source connected to ground and a drain connected to a drain of the first transistor by a resistor; and  
a controller to control the first and second transistors.

**Claim 2 (Currently Amended):** The apparatus of claim 1, wherein the first and second transistors comprise metal oxide semiconductor field-effect transistors (MOSFET's); ~~and further wherein the second transistor has a source connected to ground and a drain connected to a drain of the first transistor by a resistor.~~

**Claim 3 (Original):** The apparatus of claim 1, wherein the apparatus produces and amplitude modulated signal in response to the controller by:  
for a first period of time, simultaneously switching the first transistor to a frequency and deactivating the second transistor; and  
for a second period of time, simultaneously deactivating the first transistor and activating the second transistor.

**Claim 4 (Original):** The apparatus of claim 3, wherein the frequency is at least 13.56 megahertz.

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Claim 5 (Original): The apparatus of claim 1, wherein the class E amplifier includes an inductor supply current to the first transistor, and a shunt capacitor connected in parallel to the first transistor.

Claim 6 (Original): An amplifier comprising:  
a first transistor;  
an inductor coupling the first transistor to a supply voltage via a first resistor;  
a shunt capacitor connected in parallel to the first transistor;  
a second transistor connected to the inductor by a second resistor, wherein the second transistor controls a current path in parallel to the first transistor and the capacitor;  
a third transistor connected in parallel to the first resistor; and  
a controller coupled to the first, second and third transistors.

Claim 7 (Original): The amplifier of claim 6, wherein the controller selectively activates the first and second transistors.

Claim 8 (Original): The amplifier of claim 6, wherein the controller activates and deactivates the first transistor at a frequency, and activates and deactivates the second transistor.

Claim 9 (Original): The amplifier of claim 8, wherein the frequency is at least 13.56 megahertz.

Claim 10 (Original): The amplifier of claim 6, wherein the controller activates and deactivates the first transistor at a frequency, and activates and deactivates the third transistor.

Claim 11 (Original): The amplifier of claim 10, wherein the frequency is at least 13.56 megahertz.

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Claim 12 (Original): An apparatus comprising:

a class E amplifier having a first transistor and an inductor coupling the first transistor to a supply voltage via a first resistor;  
a second transistor connected in parallel to the first resistor; and  
a controller coupled to the first and second transistors.

Claim 13 (Original): The apparatus of claim 12, wherein the controller activates and deactivates the first transistor at a frequency, and activates and deactivates the second transistor.

Claim 14 (Original): The apparatus of claim 13, wherein the frequency is at least 13.56 megahertz.

Claim 15 (Original): The apparatus of claim 12, wherein the amplifier further comprises:  
a shunt capacitor connected in parallel to the first transistor; and  
a third transistor controlling a current path in parallel to the first transistor and the capacitor.

Claim 16 (Original): The apparatus of claim 15, wherein the controller selectively activates the first and third transistors.